REMARKS/RESPONSE

Reconsideration of this application is respectfully requested.

At the time of the Office Action (Paper No. 0204), Claims**1-4** were pending. In the Office Action, the following matters were raised or actions taken:

1) Informality objection to claim **4**

RESPONSE:

Claim **4** has been amended to correct the informality ("a" substituted for "an").

2) Rejection of claims **1-4** under 35 U.S.C. §112, second paragraph

RESPONSE:

Claims **1-4** have been amended to recite that the hopper forms a part of the slurry processing unit.

3) Rejection of claims **1-4** under 35 U.S.C. §103(a) - Taylor '635 in view of Japan '931, and Elmore et al. '567 in view of sheets '017

RESPONSE:

Claims **1-4** have been amended to clearly distinguish the invention with respected to the references. The obviousness rejection as it might be applied to the amended claims is respectfully traversed for the following reasons:

The essence of the present invention as defined by amended claims **1-4** is a closed loop slurry processing system in which treatment water produced by an on-shore treatment facility is supplied to a slurry processing unit on a dredging barge for use as slurry make-up water and for slurry viscosity adjustment, and then is recycled over and over again. This system (1) reduces the total amount of fresh make-up water needed for the dredging operation, (2) prevents the release of treatment chemicals into the surrounding waterway, (3) prevents the release of contaminated slurry into the waterway, and (4) substantially reduces the amount of contaminated process treatment water that must undergo decontamination and disposal.

Taylor '635

Taylor '635 fails to disclose a closed loop slurry processing system as set forth in the pending claims. According to Taylor '635, slurry is transported one way only to a shore treatment facility. Moreover, no mention is made about the use of the process by-product treatment water that results from chemical treatment of the slurry in a shore facility. The return of the contaminated process treatment water from a shore treatment facility for use as make-up water in a barge-mounted slurry processing unit is not disclosed nor contemplated by Taylor '635.

In particular, Taylor '635 fails to disclose piping means connecting a delivery pipeline, containment vessel, return pipeline, slurry discharge piping, slurry pumping apparatus and make-up water pumping apparatus in series flow, closed loop relation, whereby process treatment water can be used as make-up water in a slurry

processing unit and returned to the containment vessel repeatedly without releasing process treatment water into the body of water while the sludge is being processed.

Japan '931

According to Japan '931, sludge 24 is lifted hydraulicly through a concentric arrangement of pipes. The sludge is lifted by pumping water into the annulus between the pipes and discharging the pressurized water into the sludge deposit surrounding the entry port of the inner pipe. Contact of the pressurized water against the sludge deposit produces an aqueous slurry that is pumped upwardly through the inner uplift pipe and deposited into a sludge collection box 11. The hydraulic lift is assisted by compressed air discharged into the inner pipe. The slurry is screened and then conveyed through a flow pipe 24 into an "earth-sand " selector 7 and thereafter into a muddy water processor 6, and then into a water tank 5. Instead of safe remote disposal, the muddy water is pumped directly back into the body of water.

According to Fig. 1 of Japan '931, the pressurized return water discharge annulus surrounding the uplift tube 16 is submerged in the body of water and is thus discharges *muddy return water*, along with any process treatment chemicals introduced by the muddy water processor 6, directly into the waterway, so that the muddy water mixes immediately with the surrounding fresh water. Any chemical treatment materials introduced by the muddy water processor 6, along with sludge particles entrained in the muddy return water, are continuously reintroduced as an aqueous slurry back into the surrounding body of water, thus spreading the toxic

sludge particulates into the waterway.

The muddy return water will contain sludge particles that are immediately discharged back into the surrounding body of water. Japan '931 makes no provision for maintaining the muddy return water *separate and apart* from the waterway. The bottom sludge layer is constantly being "stirred up" by the pressurized muddy return water as it is discharged into the sludge. The contaminated sludge particulates entrained in the muddy return water are discharged under high pressure back into the surrounding water.

In Applicant's slurry system, *no portion* of the process treatment water or the slurry is released into the surrounding waterway at any time. In Japan '931, the turbulent intermixing action of muddy return water in the bottom sludge layer and surrounding fresh water will cause the contaminated sludge particulates to disperse throughout the surrounding body of water, thus converting the surrounding fresh water into turbid water. Japan '931 thus teaches away from Applicant's closed loop system.

Because of that contrary teaching, Japan '931 is not a proper reference to support the obviousness rejection as applied against claims 1-4 under 35 U.S.C. §103(a).

Moreover, Japan '931 does not disclose a closed loop system, and so does not supply the claimed closed loop structure that is missing in Taylor '635.

Elmore et al. '567

According to Elmore et al. '567, particles of coal are conveyed into a mixing tank and are mixed with water to form a slurry mixture. The slurry drains from an elevated site by gravity flow into a pressure vessel located at a lower elevation. Clarified water drawn from the upper region of the pressure vessel is pumped through a conduit and discharged into the pressure vessel. Solid coal particulate materials that settle to the bottom are pumped along with a *non-clarified fraction of the water* to a remote site for further treatment.

Although clarified water is pumped back to the pressure vessel, a non-clarified fraction of the water, containing entrained particulates, is pumped to another location for further treatment , for example the delivery conduit, or may continue on the earth's surface to some predetermined treatment location or it may discontinue at the top of the strip mine shaft and discharge the coal and water into an open delivery chute, Rheolaveur launder, or conveyor belt for transport to an outdoor storage site. See Patent 3,982,789 incorporated by reference into the disclosure of Elmore et al. (col. 4, lines 33- 39). Thus the coal transportation system disclosed by Elmore et al. '567 is an open cycle system, since the non-clarified portion of the water is used for transporting the coal sediment via open conveyance means, or is stored outdoors in temporary holding pits, where it drains into the soil. Because of that contrary teaching, Elmore et al. '567 is not a proper reference to support the obviousness rejection as applied against claims 1-4 under 35 U.S.C. §103(a).

Sheets '017

Sheets '017 discloses a nozzle assembly for spraying and injecting a predetermined volume of remedial water (for example, one gallon per minute for 10 minutes) into a deposit of dredged materials enclosed within in a container such as a boxcar or ISO container. The dredged material becomes saturated with the remedial water, and forms a slurry. After sampling to determine the quality of treatment, the treated sediment is removed by a suction dredge. There is no disclosure of using the excess remedial water for any purpose. The remediation process disclosed by Sheets '017 is clearly an open loop treatment system. Excess remedial water drains by gravity flow out of the container into a sump.

This open cycle remediation system teaches away from Applicant's closed loop system, in which *no portion* of the process treatment water or the slurry is released into the environment at any time. Because of its contrary open cycle teaching, Sheets '017 is not a proper reference to support the obviousness rejection as applied under 35 U.S.C. §103(a).

It is not understood how Sheets '017 could be combined with Taylor '635 or Elmore et al. '567for any purpose. In any event, a closed loop system would not result from the hypothetical combination of two open cycle systems.

For these reasons, the subject matter of claim **1-4** is not rendered obvious by the references of record within the meaning of 35 U.S.C. §103(a).

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CLAIM FEE CALCULATION

Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Small Entity Rate		Additional Fee
Total Claims	**4**	**20**	**-0-**	x $ 9	=	**-0-**
Indep. Claims	**3**	**5**	**-0-**	x $ 43	=	**-0-**
				TOTAL		**$ -0-**

__X__ No additional fee is payable in connection with this amendment, since the total number of independent and dependent claims has been reduced or remain the same after entry of this amendment.

CONCLUSION

This application appears to be in condition for allowance in light of the amendments and remarks set forth above. Applicant respectfully requests reconsideration and allowance of claims **1-4 .** A Notice of Allowance is requested.

If there are any matters remaining that may be cleared up by interview, please call Applicant's attorney at 972-447-4569.